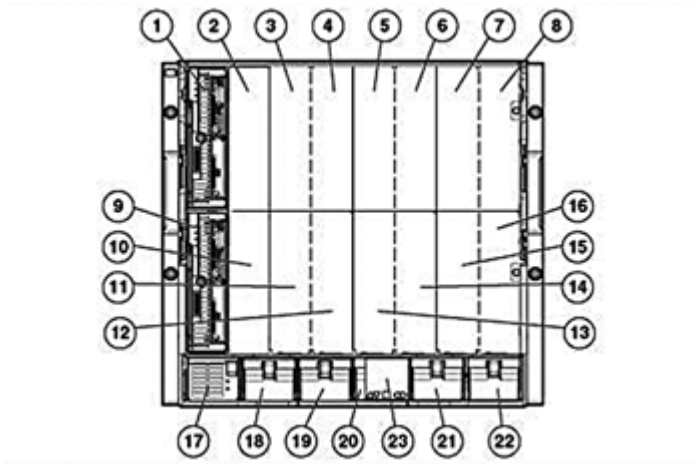
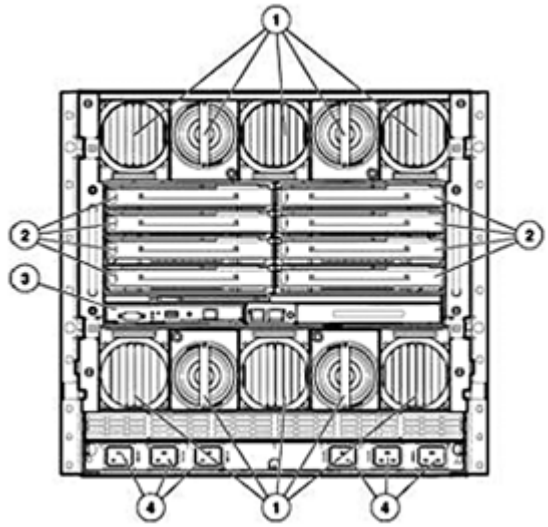
Overview



HP BladeSystem c7000 Enclosure - Front View

1. Device Bay 1
2. Device Bay 2
3. Device Bay 3
4. Device Bay 4
5. Device Bay 5
6. Device Bay 6
7. Device Bay 7
8. Device Bay 8
9. Device Bay 9
10. Device Bay 9
11. Device Bay 11
12. Device Bay 12
13. Device Bay 13
14. Device Bay 14
15. Device Bay 15
16. Device Bay 16
17. Power Supply Bay 1
18. Power Supply Bay 2
19. Power Supply Bay 3
20. Power Supply Bay 4
21. Power Supply Bay 5
22. Power Supply Bay 6
23. Insight Display



HP BladeSystem c7000 Enclosure - Rear View

1. Active Cool 200 Fans & fan bays
2. Interconnect Bays
3. BladeSystem Onboard Administrator
4. Power Inputs (single phase model shown)

Overview

What's New

- Support for Ethernet and FC SAN interconnects

At A Glance

This document covers the HP BladeSystem c7000 Enclosure. For more information on HP ProLiant Server Blades and HP BladeSystem c-Class Interconnect Components please see the following QuickSpecs:
HP ProLiant c-Class Server Blades:
http://h18000.www1.hp.com/products/quickspecs/division/12534.html
HP BladeSystem c-Class Interconnect QuickSpecs:
http://h18000.www1.hp.com/products/quickspecs/12524_div/12524_div.html
HP BladeSystem c3000 Enclosure QuickSpecs:
http://h18000.www1.hp.com/products/quickspecs/12790_div/12790_div.html

HP BladeSystem solutions start with a BladeSystem c7000 Enclosure, optional c7000 hot-plug power supplies, HP Active Cool Fans, and an optional redundant BladeSystem Onboard Administrator module. Once the enclosure has been selected, the following components can be added: networking interconnect modules, HP ProLiant and Integrity Server Blades, and Insight Control management software. Reference the QuickSpecs listed above.

- Warranty - This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.
  - Enclosure: Three-year parts and labor, on-site limited global warranty. Certain restrictions and exclusions apply
  - Enclosure options: Fans, Power Supplies, BladeSystem Onboard Administrator, 1 Year parts only or enclosure warranty
  - HP BladeSystem Interconnects: 1 Year parts and labor, on-site regardless of the warranty period for the system in which they are installed
  - HP Storage Fibre Channel switches have a maximum warranty period of one (1) year regardless of the warranty period for the system in which they are installed
  - Hard drives have either a one year or three year warranty; refer to specific hard drive QuickSpecs for details.

For additional information please visit: http://www.hp.com/go/bladesystem

HP BladeSystem c-Class c7000 Enclosure

A BladeSystem c7000 enclosure holds up to 16 server and/or storage blades plus redundant network and storage switches. It includes a shared, multi-terabit high-speed mid-plane for wire-once connectivity of server blades to network and shared storage. Power is delivered through a pooled power backplane that ensures the full capacity of the redundant hot-plug power supplies is available to all blades.

Each c7000 enclosure is built with the following functions:

- Up to 16 half-height and/or up to 8 full-height server blades and/or storage blades per enclosure.
- Up to 4 different interconnect fabrics (Ethernet, FC, IB, iSCSI, SAS, etc.) supported simultaneously within the enclosure.
- Choice of a single-phase, three-phase or a -48V DC power subsystem for flexibility in connecting to datacenter power.
- HP Thermal Logic technology for lower power consumption and airflow.
- Four (4) or Ten (10) Active Cool 200 fans as standard. For redundancy and improved power consumption and acoustics; additional Active Cool 200 Fan kits can be added for a maximum of 10 fans.
- Redundant hot-plug cooling, redundant hot-plug power supplies, redundant connections, redundant interconnect modules, optional redundant BladeSystem Onboard Administrator management modules.
- Lowest cost of ownership.
- Full AC redundancy - with no power zones.

An BladeSystem Onboard Administrator management module is built in to the enclosure with the following functions:

- Robust, multiple enclosure setup and control.
- Reports asset and inventory information for the devices in the enclosure.
- Reports thermal and power information, including real-time actual power usage per server and per enclosure.
- Front-mounted Insight Display for easy management within the datacenter.
- Integrated access to all server blade iLOs from a single cable.
- Provides integrated access to interconnect bay device management ports from the single BladeSystem Onboard Administrator cable.
- Single sign-on capability for all devices in the enclosure
- Role-based security locally and/or with LDAP directory services.
- Provides a wizard-based initial setup process for easy configuration.

A BladeSystem c7000 enclosure provides the following benefits:

- With local and remote hardware management integrated across the solution, one full enclosure can be managed as easily as one server.
- Scalable: Management and network interconnects extend scalability beyond a single enclosure, allowing resources to be pooled and shared across multiple enclosures.
- Investment protection: Accommodates multiple server and network designs in one enclosure.
- Lower costs per server, in comparison to rack-mounted servers
- Lower power consumption, in comparison to rack-mounted servers.
- Lower airflow requirements, in comparison to rack-mounted servers

HP BladeSystem c-Class Overview

HP c3000 Enclosure

For customers that need a smaller system the c3000 is the perfect solution. Supporting up to 8 blades and 4 interconnects the c3000 enclosure provides and ideal solution for Small and Medium businesses and remote sites for more information refer to the c3000 QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12790_div/12790_div.html

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HP ProLiant & Integrity Server Blades

Delivering best-in-class performance, choice and reliability on AMD Opteron™, Intel® Xeon® and Intel® Itanium 2® processors for Windows, Linux, Solaris, or HP-UX based servers; the HP portfolio of server blades supports a variety of application requirements for scale-out architectures. HP offers one-, two-, and four-processor server blades, with the widest range of performance, and form factors.
For more information please see:
http://h18000.www1.hp.com/products/quickspecs/division/12534.html

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HP SB40c Storage Blade

Direct attached storage

The StorageWorks SB40c Storage Blade delivers direct attached storage for c-Class servers, with support for up to six hot plug small form factor (SFF) SAS or SATA hard disk drives. The enclosure backplane provides a PCI Express connection to the adjacent c-Class server blade and enables high performance storage access without any additional cables. The SB40c Storage Blade features an onboard Smart Array P400 controller with 256 MB battery-backed write cache, for increased performance and data protection.

Shared storage

Use HP LeftHand P4000 Virtual SAN Appliance (VSA) software to turn the SB40c into an iSCSI SAN for use by all severs in the enclosure and any server on the network. HP LeftHand VSA software is installed in a virtual machine on a VMware ESX host server adjacent to the SB40c. HP LeftHand P4000 VSA turns the SB40c into a scalable and robust iSCSI SAN, featuring, storage clustering for scalability, Network RAID for storage failover, thin provisioning, snapshots, remote replication, and cloning. Expand capacity within the same enclosure or to other BladeSystem enclosures by adding additional SB40c Storage Blades and HP LeftHand VSA licenses.
http://h18000.www1.hp.com/products/quickspecs/12587_div/12587_div.html

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HP Ultrium Tape Blades

The HP StorageWorks SB1760c is an LTO-4 Ultrium, 1.6 TB capacity on a single cartridge (2:1 compression), 576 GB/hr performance (2:1 compression), 128 MB buffer size, WORM capability, AES 256-bit hardware data encryption capability.

The HP StorageWorks SB920c Tape Blade is an LTO-3 Ultrium tape blade that provides up to 800GB of capacity on a single data cartridge (2:1 compression) and performance up to 432GB/hr (2:1 compression).

The Ultrium 448c Tape Blade is an LTO-2 Ultrium tape blade the provides up to 400GB of capacity on a single data cartridge (2:1 compression) and performance up to 173GB/hr (2:1 compression).

Tape blades are ideal for HP BladeSystem c-Class customers who need a data protection solution but are not connected into a Storage Area Network (SAN). They provide direct attach data protection for the adjacent server and network backup protection for all other data within the enclosure. The HP StorageWorks tape blades are the industry's first bladed tape drives and are developed exclusively for the BladeSystem c-Class enclosures.

For more information, please visit:

Dynamic Power Capping

HP Dynamic Power Capping is the industry's first and only power capping solution that lets you reclaim trapped power and cooling capacity without putting electrical infrastructure or server performance at risk. The enclosure Dynamic Power Cap will be shared amongst all of the installed devices and individual server caps will be changed to match the server load. This will optimize the performance of the servers while ensuring that the enclosure stays below the cap value. Dynamic Power Capping solution is available only through the HP Insight Control management software.

Rack Airflow Requirements

Rack 10000 G2 series cabinets

The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The G2 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

NOTE: For operation with the DC Input Module the G2 1000 Series Rack Extension is required to allow DC Power Cabling to be installed.

CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

- Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- The clearance from face of rack to inside of the front door needs to be 1.75" minimum.
- Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).
- Depth: Minimum 39.4 inches (1000mm) for AC power, 47 inches (1200mm) for DC Power Input
- Adjustable rack rails are shipped with each enclosure:
  - Minimum rail length: 25 inches (635mm)
  - Maximum rail length: 34 inches (864mm)

CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging and custom packaging. HP products supported through Factory Express include: a wide array of servers and storage: HP Integrity, HP ProLiant & HP ProLiant & Integrity Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: http://www.hp.com/go/factory-express

HP Enterprise Configurator		The HP eConfigure Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator
HP Insight management software	HP Insight Foundation	Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters. HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems: http://www.hp.com/go/foundation. The foundation pack includes: • HP SmartStart • HP Management • HP ProLiant Firmware Maintenance SmartStart version supported (minimum): SmartStart 7.60. http://www.hp.com/servers/smartstart
	ProLiant Onboard Administrator	HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP ProLiant Onboard Administrator functions without additional software, and can be accessed from any location via a web browser. It works hand-in-hand with HP Systems Insight Manager, Insight Control, and the Insight Dynamics-for ProLiant helping customers unlock the value of the ProLiant platform and deliver the highest possible quality of IT service to the business. See: www.hp.com/go/ProLiantOA
	HP Insight Control	HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management servers: HP Insight Control for Linux, and HP Insight Control. See www.hp.com/go/insightcontrol HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight.
	HP Insight Dynamics for ProLiant	HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. As a powerfully

integrated by design toolkit to accelerate complex technology projects and simplify daily operations that ultimately enable IT Staff personnel to dynamically keep pace with the organizations changing business requirements. It enables them to plan capacity and power continuously, balance across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.

NOTE: For more information, visit:
http://www.hp.com/go/insightdynamics

HP BladeSystem Power Sizer

The HP BladeSystem Power Sizer helps in sizing the power infrastructure needed for a HP BladeSystem solution. This sizer enables effective planning for the power consumption and heat load of the BladeSystem at its site.

The sizer enables you to:

- Select the type and number of components within each Blade Server and Blade Enclosure.
- View the effect of component changes on the power consumption and heat loading.
- Review server loading and determine power supply and power subsystem requirements.
- Approximate electrical and heat load for facilities planning purposes.

The sizing estimate is based on component level power measurements for a system operating at very high enterprise application loads.

Values obtained from the BladeSystem Power Sizer are estimates for planning purposes only. Actual measured power consumption can be significantly lower or higher than the Power Sizer estimates. Actual power consumption varies with application type, application utilization, and ambient temperature.

The p-class BladeSystem and the c-Class BladeSystem solutions are supported in the BladeSystem Power Sizer.

Available at: www.hp.com/go/bladesystem/powercalculator

HP Power Advisor

The HP Power Advisor is a tool provided by Hewlett-Packard to assist in the estimation of power consumption and proper selection of components including power supplies at a system, rack, and multi-rack level. A variety of additional features are also provided including a condensed bill of materials, a cost of owner ship calculator, and a power report. The HP Power Advisor allows for the mixing of rack, tower, blade, and other products in a single environment.
Available at: www.hp.com/go/hppoweradvisor

Service and Support

HP Care Pack services provide total care and support expertise with committed response designed to meet your IT and business needs.

The HP Care Pack service for HP ProLiant BL c-Class server blades, cover the server blade and all HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the server.

HP Care Pack services for the c7000 and c3000 enclosures cover the enclosure, power supplies and fans. HP qualified rack options are covered by these services when installed within the same rack. HP supported c-Class enclosure devices including pass thru, Ethernet interconnect and virtual connect modules are also covered by the c7000 and c3000 enclosure Care Pack services.

NOTE: SAN/Fabric switches for the HP c-Class BladeSystem are not covered under the c7000 enclosure Care Packs, SAN/Fabric switches carry separate Care Packs. SAN/Fabric Switch Care Pack service level support should always be uplifted to match existing storage or server service level.

To fully capitalize on your HP BladeSystem servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a HP BladeSystem server support offer to help you speedily deploy and maximize system uptime.

Recommended Service - Simplify ProLiant solution implementation, maintenance and management.

- Support Service - 4-Hour Response Coverage, 3-Year, 24 x 7, Same Business Day
- Deployment Service - Installation and Start Up for HP BladeSystem Infrastructure

Enhanced Service - Optimize service level to increase IT performance and availability

- Support Service - HP Proactive BladeSystem Service, 1-Year
- Deployment Service - Enhanced Network Installation and Start-up for HP BladeSystem Switches

Installation & Start-Up service for HP BladeSystem Infrastructure plus HP BladeSystem Enhanced Network Installation and Start-UP as per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excluding HP holidays.

For a complete listing of service offerings and information visit:
http://www.hp.com/services/bladesystemservices
http://h20219.www2.hp.com/services/us/en/always-on/servers-bladesystem.html

For a complete configuration of the HP BladeSystem, please do the following:

Step 1: Select desired model, configuration and quantity of HP ProLiant server and Storage blades

NOTE: For server blade information, please visit:
http://h18000.www1.hp.com/products/quickspecs/division/12534.html
NOTE: For Storage Blade information, please visit:
http://h18000.www1.hp.com/products/quickspecs/12587_div/12587_div.html

Step 2: Determine quantity of HP BladeSystem c-Class Enclosures to purchase and choose Required Options (One of the following from each list unless otherwise noted):

NOTE: Each HP BladeSystem c-Class Server Blade Enclosure holds up to 16 half-height blades. Server blanks will be shipped in all empty bays.

Base Server Blade Enclosure Configuration

HP BladeSystem BLc7000 c-Class Server Blade Enclosures	HP BLc7000 CTO Enclosure	507019-B21
	HP BLc7000 BCS CTO c-Class Enclosure	AD361C
	NOTE: CTO models include 1x BladeSystem Onboard Administrator with KVM, 4x Active Cool 200 Fans and 0x power supplies. NOTE: All c-Class enclosures support HP ProLiant, Integrity and StorageWorks blades in either mixed or homogenous configurations. The AD361C enclosure is suggested for configurations primarily used with Integrity blades.	

Required Options (one of the following from each category unless otherwise noted)

c-Class Power Modules (1 per enclosure)	HP BLc7000 Single Phase Power Module, FIO	413379-B21
	HP BLc7000 Three Phase Power Module, FIO, INT'L	413381-B21
	HP BLc7000 Three Phase Power Module, FIO, NA/JPN	413380-B21
	HP BLc7000 -48V DC Power Input Module	AH331A
c-Class Power Supply (Up to 6)	6x HP 2400W High Efficiency Hot-Plug Power Supply Bundle, FIO NOTE: The bundle includes a quantity of 6 HP 2400W High Efficiency PSU so a full enclosure can be configured with a single part number.	517521-B21
	HP 2400W High Efficiency Hot-Plug Power Supply (Single PSU supplied with 2m/6ft IEC C20 - C19 jumper cord)	499243-B21
	HP c7000 Enclosure 2250W Hot-Plug -48V DC Power Supply (single PSU) NOTE: Only compatible with -48V DC Power Input Module. NOTE: Mixing of power supplies in the same enclosure is not supported. All power supplies must be of the same type. All HP 2400W HE, all HP2250W or all -48V DC. NOTE: If Three Phase Power Module selected, a minimum of 3 Power Supply Option Kits are needed. For full redundancy 6 Power Supply Option Kits are required.	AH332A
c-Class Active Cool Fan (Up to 6)	6x HP Active Cool 200 Fan Bundle, FIO NOTE: The bundle includes a quantity of 6 HP Active Cool 200 Fans so a full enclosure can be configured with a single part number.	517520-B21
	HP Active Cool 200 Fan Option Kit (single fan) NOTE: A minimum of 4 Active Cool 200 Fans is required, 8 Active Cool 200 Fans can support a full blade enclosure, 10 Active Cool 200 Fans should be ordered for reduced power consumption and noise reduction.	412140-B21

NOTE: Single-Phase models may require additional power supplies. Fans should be added to provide redundancy, reduce power consumption and reduce noise.
NOTE: Three-Phase models require a minimum of 6 Active Cool 200 Fans.
NOTE: Some Blade configurations require 10 fans.

Step 3: Select optional software bundle (if nothing is selected system will ship with 16 Insight Control and Insight Control for Linux Trial Licenses):

Enclosure Options	HP c-Class Insight Control for BladeSystem 16 Licenses, including 1 year of 24x7 Technical Support and Updates, FIO	417688-B23
	HP c-Class Insight Control for BladeSystem 8 Licenses, including 1 year of 24x7 Technical Support and Updates, FIO	439034-B23

Step 4: Select optional Redundant BladeSystem Onboard Administrator Capability

HP c7000 Onboard Administrator with KVM Option 456204-B21
NOTE: With 1 Gb/s Adapters.

NOTE: Models of the c7000 enclosure (part numbers 507019-B21 and AD361C) come with a BladeSystem Onboard Administrator with KVM as standard. Order this part number (456204-B21) when a second redundant BladeSystem Onboard Administrator is desired for a c7000 enclosure.

Step 5: Select 1 or more interconnect modules for each enclosure

The following is a list of various HP BladeSystem c-Class interconnect modules (Virtual Connect, Ethernet, Fibre Channel, InfiniBand, and SAS interconnects). For detailed interconnect options consult the specific interconnect QuickSpecs:
http://h18004.www1.hp.com/products/blades/components/c-class-interconnects.html
A pair of interconnects must be ordered if redundancy is required.
NOTE: Options for specific c-Class interconnects are NOT included in the list below. Consult the individual interconnect QuickSpecs to obtain part numbers for interconnect options such as cables, SFPs, etc.

HP BladeSystem c-Class Network Interconnects	HP Virtual Connect Flex-10 10Gb Ethernet Module for the c-Class BladeSystem	455880-B21
	HP 1/10Gb-F Virtual Connect Ethernet Module for c-Class BladeSystem	447047-B21
	HP 1/10Gb Virtual Connect Ethernet Module for c-Class BladeSystem	399593-B22
	HP ProCurve 6120G/XG Blade Switch	498358-B21
	HP ProCurve 6120XG Blade Switch	516733-B21
	Ethernet Pass-Through Module for HP BladeSystem	406740-B21
	HP 10GbE Pass-Thru Module	538113-B21
	HP BladeSystem c-Class Virtual Connect 1Gb SX SFP Option Kit	453151-B21
	HP BladeSystem c-Class Virtual Connect 1Gb RJ-45 SFP Option Kit	453154-B21
	Cisco Catalyst Blade Switch 3120X for HP	451439-B21
	Cisco Catalyst Blade Switch 3120G for HP	451438-B21
	Cisco Catalyst Blade Switch 3020 for HP c-Class BladeSystem	410916-B21
	GbE2c Layer 2/3 Ethernet Blade Switch for c-Class BladeSystem	438030-B21

	HP GbE2c Layer 2/3 Ethernet Blade Switch Advanced Functionality Software NOTE: Provides additional feature functionality such as Hot Links, PVLAN Edge and IGMPv3 Snooping. Purchase of this SW entitles users to three years of additional software upgrades as made available. This option may be purchased at any time.	485192-B21
	HP 1:10 Gb Ethernet BL-c Switch	438031-B21
	HP 1:10 GbE BLc Advanced Functionality Software NOTE: Provides additional feature functionality such as Hot Links, PVLAN Edge and IGMPv3 Snooping. Purchase of this SW entitles users to three years of additional software upgrades as made available. This option may be purchased at any time.	485193-B21
	HP 10Gb Ethernet BL-c Switch NOTE: The purchase the HP 10Gb Ethernet BL-c Switch, also requires the purchase HP 10GbE Dual Port Mezzanine Adapter for HP BladeSystem c-Class (P/N 516936-B21) per server blade that requires 10Gbit support.	445860-B21
	HP 10GbE BLc Advanced Functionality Software NOTE: Provides additional feature functionality such as Hot Links, PVLAN Edge and IGMPv3 Snooping. Purchase of this SW entitles users to three years of additional software upgrades as made available. This option may be purchased at any time.	485194-B21
	NOTE: The HP BladeSystem c-Class Network Interconnects ship as single units. The above interconnects must be ordered in quantities of two for redundancy support.	
HP BladeSystem c-Class SAN Interconnects	HP 4Gb Virtual Connect Fibre Channel Module for c-Class BladeSystem	409513-B21
	HP Virtual Connect 8Gb 24-Port Fibre Channel Module for c-Class BladeSystem	466482-B21
	HP Virtual Connect 8Gb 20-Port Fibre Channel Module for c-Class BladeSystem	572018-B21
	16 port FC Pass-thru Module for c-Class BladeSystem	403626-B21
	Brocade 8/12c SAN Switch for HP BladeSystem c-Class, Full Fabric	AJ820A
	Brocade 8/24c SAN Switch for HP BladeSystem c-Class, Full Fabric	AJ821A
	Brocade 8/24c SAN Switch Power Pack for HP BladeSystem c-Class, Full Fabric	AJ822A
	Brocade 8/12c SAN Switch 12-port Upgrade LTU	T5517A
	HP Brocade 4/12 SAN Switch	AE370A
	HP Brocade 4/24 SAN Switch Power Pack	AE371A
	HP Brocade 4/24 SAN Switch	AE372A
	HP Brocade 4/12 SAN Switch Upgrade LTU	AE373A
	Cisco MDS 9124e 12-port Fabric Switch	AG641A
	Cisco MDS 9124e 24-port Fabric Switch	AG642A
	Cisco MDS 9124e 12-port Upgrade LTU	T5169A
HP StorageWorks SAS Switch	HP StorageWorks 3Gb SAS BL Switch - Single Pack	AJ864A
	HP StorageWorks 3Gb SAS BL Switch - Dual Pack	AJ865A
HP BladeSystem InfiniBand Interconnects	QLogic BLc 4X QDR IB Switch for HP BladeSystem c-Class	505958-B21
	QLogic BLc 4X QDR IB Management Module	505959-B21
	HP BLc 4X QDR IB Switch Module for HP c-Class BladeSystem	489184-B21

Step 6: Select rack power distribution for single-phase models

NOTE: A pair of PDUs must be ordered for AC Feed redundancy.

Configuration Information Factory Integrated Models

HP Monitored Power Distribution Unit	HP 17.3 kVA S348 Monitored PDU- single input, 3Ø, 48A (NA/JPN)	AF916A
	HP 14.4 kVA S340 Monitored PDU - single input 3Ø, 40A (NA/JPN)	AF536A
	HP 22 kVA S332 Monitored PDU- single input, 3-phase, 32A (INTL)	AF917A
HP Modular Power Distribution Units	HP 17.3 kVA Modular PDU, 48A 3Ø, Core Only (NA/JPN)	AF511A
	HP 14.4 kVA Modular PDU, 40A 3Ø, Core Only (NA/JPN)	AF519A
	HP 22 kVA Modular PDU, 32A 3Ø, Core Only (Intl)	AF518A
	HP 8.6 kVA Modular PDU 24A 3Ø Core Only (NA/JPN)	AF512A
	HP 11 kVA Modular PDU 16A 3Ø Core Only (Intl)	AF513A
	HP 8,3k VA Modular PDU 40 Amp Core Only (NA/JPN)	252663-D75
	HP 9.2kVA Modular PDU 40 Amp Core Only (Intl)	252663-B34
	HP7.3kVA Modular PDU 32 Amp Core Only (Intl)	252663-B33
	HP 4.9kVA Modular PDU 24 Amp Core Only (NA/JPN)	252663-D74
	NOTE: The Core Only Modular Power Distribution Unit Kits excludes the extension bars as they are not required with the HP BladeSystem	
	HP Two C-13 PDU Extension Bars	AF500A
	NOTE: Each extension bar has a C19 input and 7 C13 receptacles. The option is ideal for model S348, and, model S332, which both have only C19 outlets (12) and for all Core Only Modular PDUs.	

Step 7: Select optional Power Cords for Single Phase Model (country specific power cords are listed under options)

NOTE: Default power cord is a 6ft IEC C19 - C20 cord

PDU cords (HP C19 to C20)	HP 16A IEC320-C19 to C20 1.2m/4ft PDU cord, Grey	AF575A
	HP 16A IEC320-C19 to C20 2m /6ft PDU cord, Grey	AF574A
	HP 16A IEC320-C19 to C20 2.5m/8ft PDU cord, Black	295633-B22
	HP 16A IEC320-C19 to C20 4.5m/15ft PDU cord, Black	E7804A

Related Options

HP BladeSystem c-Class Server Blade Enclosures	HP BladeSystem c7000 Enclosure with 16 Insight Control licenses NOTE: Single-Phase with 2 Power Supplies, 4 Fans with 16 Insight Control licenses, including 1 year of 24x7 Technical Support and Updates.	507015-B21
	HP BladeSystem c7000 Enclosure with 16 Insight Control licenses NOTE: Three-Phase North America/Japan with 6 Power Supplies, 10 Fans with 16 Insight Control licenses, including 1 year of 24x7 Technical Support and Updates.	507017-B21
	HP BladeSystem c7000 Enclosure with 16 Insight Control licenses NOTE: Three-Phase International with 6 Power Supplies,10 Fans with 16 Insight Control licenses, including 1 year of 24x7 Technical Support and Updates.	507016-B21
	HP BladeSystem c7000 Enclosure with 8 HP Insight Control 30 Day Trial Licenses NOTE: Single-Phase with 2 Power Supplies, 4 Fans, with 8 HP Insight Control 30 Day Trial Licenses.	507014-B21
	NOTE: All c7000 BTO enclosures will ship with 15 server blanks. CTO enclosures will ship with the required number of server blanks. NOTE: New models of the c7000 enclosure (part numbers 5070xx-B21) come as standard with the HP 2400W HE PSU and Onboard Administrator with KVM.	
c7000 Enclosure Options	HP c7000 Onboard Administrator with KVM NOTE: Models of the c7000 enclosure (P/Ns 507019-B21: 507015-B21, 507017-B21, 507016-B21, 507014-B21) come with an BladeSystem Onboard Administrator with KVM as standard. Order (P/N 456204-B21) when a second redundant BladeSystem Onboard Administrator is desired for a c7000 enclosure.	456204-B21
	HP c7000 Enclosure 10K Rack Ship Bracket Option Kit NOTE: The shipping bracket is required when shipping a c7000 enclosure when installed in a rack. It is not required for normal operation.	433718-B21
	HP BladeSystem Replacement Enclosure Miscellaneous Blanks kit (contains 1 each of Power Supply Blank, Interconnect Module Blank, BladeSystem Onboard Administrator Blank, Active Cool Fan Blank) NOTE: This kit should only be ordered to replace lost or damaged blanks.	412148-B21
	HP c-Class Server Blank and Coupler Option Kit (contains 1 x half-height server blank with coupler) NOTE: The coupler allows half-height server blanks to be coupled together to create a full-height server blank. NOTE: This kit should only be ordered to replace lost or damaged blanks.	412150-B21
c7000 Power Options	HP 2400W High Efficiency Hot-Plug Power Supply (supplied with 2m/6ft IEC C20 - C19 jumper cord)	499243-B21
	HP c7000 Enclosure 2250W Hot-Plug -48V DC Power Supply	AH332A
	HP BLc7000 -48V DC Power Input Module	AH331A
	NOTE: Mixing of power supplies in the same enclosure is not supported. All power supplies must be of the same type, all HP 2400W HE, all HP2250W or all -48V DC. NOTE: HP BladeSytem Power supplies meet multiple Energy Efficiency Initiatives: 2400W, 92%: Climate Savers Computing Initiative GOLD and ECOS Consulting 80 Plus GOLD. NOTE: The 80 PLUS program is a unique forum that unites electric utilities, the computer industry, and consumers in an effort to bring energy efficient technology solutions to the marketplace. 80 Plus independently tests power supply efficiency and publically posts the results on 80Plus.org."	

Related Options

c-Class Active Cool Fan	HP Active Cool 200 Fan Option Kit NOTE: A minimum 4 Active Cool 200 Fans is required, 8 Active Cool 200 Fans can support a full blade enclosure, 10 Active Cool 200 Fans should be ordered for reduced power consumption and noise reduction. Some Blade configurations require 10 fans.	412140-B21
HP BladeSystem c-Class Network Interconnects	HP Virtual Connect Flex-10 10Gb Ethernet Module for the c-Class BladeSystem	455880-B21
	HP BLc 10Gb SR SFP+ Option	455883-B21
	HP BLc 10Gb LR SFP+ Option	455886-B21
	HP BLc 10Gb LRM SFP+ Option	455889-B21
	HP BLc SFP+ .5m 10-GbE Copper Cable Option	487649-B21
	HP BLc SFP+ 1m 10-GbE Copper Cable Option	487652-B21
	HP BLc SFP+ 3m 10-GbE Copper Cable Option	487655-B21
	HP BLc SFP+ 5m 10-GbE Copper Cable Option	537963-B21
	HP BLc SFP+ 7m 10-GbE Copper Cable Option	487658-B21
	HP Virtual Connect Flex-10 Enterprise Edition Option for c7000 c-Class BladeSystem NOTE: Includes two HP Virtual Connect Flex-10 10Gb Ethernet Modules for c-Class BladeSystem, plus one BL c7000 enclosure license for HP Virtual Connect Enterprise Manager software (VCEM). The VCEM license allows one BL-c7000 enclosure to be managed for the life of the enclosure, and includes 1 year of 24x7 Technical Support and Updates. Customer will receive a printed license entitlement certificate, which must be redeemed online or via fax to obtain the license activation key(s). NOTE: For additional license kits, please visit: http://h18000.www1.hp.com/products/quickspecs/12860_div/12860_div.html	591973-B21
	HP 1/10Gb-F Virtual Connect Ethernet Module for c-Class BladeSystem	447047-B21
	HP 1/10Gb Virtual Connect Ethernet Module for c-Class BladeSystem	399593-B22
	HP ProCurve 6120G/XG Blade Switch	498358-B21
	HP ProCurve 6120XG Blade Switch	516733-B21
	Ethernet Pass-Through Module for HP BladeSystem	406740-B21
	HP 10GbE Pass-Thru Module	538113-B21
	HP BladeSystem c-Class Virtual Connect 1Gb SX SFP Option Kit	453151-B21
	HP BladeSystem c-Class Virtual Connect 1Gb RJ-45 SFP Option Kit	453154-B21
	Cisco Catalyst Blade Switch 3120X for HP	451439-B21
	Cisco Catalyst Blade Switch 3120G for HP	451438-B21
	Cisco Catalyst Blade Switch 3020 for HP c-Class BladeSystem	410916-B21
	HP GbE2c Layer 2/3 Ethernet Blade Switch	438030-B21
	HP GbE2c Layer 2/3 Ethernet Blade Switch Advanced Functionality Software NOTE: Provides additional feature functionality such as Hot Links, PVLAN Edge and IGMPv3 Snooping. Purchase of this SW entitles users to three years of additional software upgrades as made available. This option may be purchased at any time.	485192-B21
	Cisco 10GBASE-CX4 X2 Module	459005-B21
	Cisco 10GBASE-SR X2 Module	459006-B21
	Cisco 10GBASE-LRM X2 Module	459007-B21
	HP 10Gb SR XFP Module	443756-B21
	HP 10Gb LR XFP Module	443757-B21

Related Options

	HP 1:10 Gb Ethernet BL-c Switch	438031-B21
	HP 1:10 GbE BLc Advanced Functionality Software NOTE: Provides additional feature functionality such as Hot Links, PVLAN Edge and IGMPv3 Snooping. Purchase of this SW entitles users to three years of additional software upgrades as made available. This option may be purchased at any time.	485193-B21
	HP 10Gb Ethernet BL-c Switch NOTE: The purchase the HP 10Gb Ethernet BL-c Switch, also requires the purchase HP 10GbE Dual Port Mezzanine Adapter for HP BladeSystem c-Class (P/N 516936-B21) per server blade that requires 10Gbit support.	445860-B21
	HP 10GbE Dual Port Mezzanine Adapter for HP BladeSystem c-Class	516936-B21
	HP 10GbE BLc Advanced Functionality Software NOTE: Provides additional feature functionality such as Hot Links, PVLAN Edge and IGMPv3 Snooping. Purchase of this SW entitles users to three years of additional software upgrades as made available. This option may be purchased at any time.	485194-B21
	NOTE: The HP BladeSystem c-Class Network Interconnects ship as single units. The above interconnects must be ordered in quantities of two for redundancy support.	
HP BladeSystem c-Class SAN Interconnects	HP Virtual Connect 4Gb Fibre Channel Module for c-Class BladeSystem	409513-B22
	HP Virtual Connect 8Gb 24-Port Fibre Channel Module for c-Class BladeSystem	466482-B21
	HP Virtual Connect 8Gb 20-Port Fibre Channel Module for c-Class BladeSystem	572018-B21
	16 port FC Pass-thru Module for c-Class BladeSystem	403626-B21
	Brocade 8/12c SAN Switch for HP BladeSystem c-Class, Full Fabric	AJ820A
	Brocade 8/24c SAN Switch for HP BladeSystem c-Class, Full Fabric	AJ821A
	Brocade 8/24c SAN Switch Power Pack for HP BladeSystem c-Class, Full Fabric	AJ822A
	Brocade 8/12c SAN Switch 12-port Upgrade LTU	T5517A
	HP Brocade 4/12 SAN Switch	AE370A
	HP Brocade 4/24 SAN Switch Power Pack	AE371A
	HP Brocade 4/24 SAN Switch	AE372A
	HP Brocade 4/12 SAN Switch Upgrade LTU	AE373A
	Cisco MDS 9124e 12-port Fabric Switch	AG641A
	Cisco MDS 9124e 24-port Fabric Switch	AG642A
	Cisco MDS 9124e 12-port Upgrade LTU	T5169A
HP StorageWorks SAS Switch	HP StorageWorks 3Gb SAS BL Switch - Single Pack	AJ864A
	HP StorageWorks 3Gb SAS BL Switch - Dual Pack	AJ865A
HP BladeSystem InfiniBand Interconnects	QLogic BLc 4X QDR IB Switch	505958-B21
	QLogic BLc 4X QDR IB Mgmt Module	505959-B21
	HP BLc 4X QDR IB Switch Module for HP c-Class BladeSystem	489184-B21

Related Options

HP Insight Software	Insight Control	
	HP Insight Control, No Media, 8 Electronic Licenses for bundling with an enclosure including 1 year of 24x7 Technical Support and Updates	TC276AAE
	HP Insight Control, No Media, 16 Electronic Licenses for bundling with an enclosure including 1 year of 24x7 Technical Support and Updates	TC277AAE
	HP Insight Control, No Media 1-Server License including 1 year of 24x7 Technical Support and Updates	452148-B22
	HP Insight Software Media Kit NOTE: Insight Software DVD media without licenses. Contains Insight Control, Insight Dynamics and Virtual Connect Enterprise Manager. Uses an integrated installer to perform quick and accurate software installation and updates. NOTE: Licenses ship without media. The Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates. NOTE: The "for bundling with an enclosure" license kits can only be ordered together with a BladeSystem c3000 or c7000 enclosure on the same order. NOTE: Electronic licenses can be used to purchase multiple licenses with a single activation key, and is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent. NOTE: Customer will receive a license entitlement certificate, which must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service. NOTE: For additional license kits, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html	436222-B21
	HP Insight Control for Linux	
	HP Insight Control for Linux, 1-server license, including one year of 24x7 Technical Support and Updates, Electronic	T9084BAE
	HP Insight Control for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates	464423-B22
	HP Insight Control for Linux, Media pack (DVD) - No licenses included NOTE: Media pack DVD contains HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Licenses must be acquired separately. NOTE: Licenses ship without media. The Media pack for Insight Control for Linux can be ordered separately, or can be downloaded at: http://www.hp.com/go/ic-linux (click on Download button). NOTE: Electronic licenses can be used to purchase multiple licenses with a single activation key, and is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent. NOTE: Customer will receive a license entitlement certificate, which must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service. NOTE: For additional license kits, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html	464422-B22

Related Options

HP Virtual Connect Enterprise Manager	HP Virtual Connect Enterprise Manager for BL-c7000, No Media, 1-Enclosure License including 1 year of 24x7 Technical Support and Updates NOTE: This license allows 1 BL-c7000 enclosure to be managed with VCEM. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service. NOTE: For additional license kits, please visit: http://h18000.www1.hp.com/products/quickspecs/12860_div/12860_div.html	459864-B21
HP c-Class Storage Blades	HP StorageWorks SB40c storage blade	411243-B21
	HP PCI Express Mezzanine pass-thru card for HP BladeSystem NOTE: The mezzanine card is needed to support the SB40c storage blade (P/N 411243-B21) with HP c-Class BladeSystem full-height server blades.	431643-B21
	HP StorageWorks SB40c Storage Blade and HP LeftHand VSA bundle NOTE: Includes the SB40c Storage Blade and a single LeftHand P4000 VSA license. LeftHand VSA software is installed in a virtual machine on a VMware ESX host server adjacent to the SB40c. NOTE: Includes 1 yr 9x5 software support for LeftHand P4000 VSA software. NOTE: LeftHand P4000 VSA is supported on VMware ESX 3.0.2, 3.5 and ESX i version 3.5 For detailed deployment information, see the HP LeftHand P4000 VSA in an HP BladeSystem environment solution guide: http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c01729139/c01729139.pdf NOTE: For additional license kits, please visit: http://h18000.www1.hp.com/products/quickspecs/12587_div/12587_div.html	AT459A
HP PCI Expansion Blades	PCI Expansion Blade NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12753_div/12753_div.html	448018-B21
	HP PCI Express Mezzanine pass-thru card for HP BladeSystem NOTE: The mezzanine card is needed to support the PCI Expansion Blade (P/N 448018-B21) with HP c-Class BladeSystem full-height server blades.	431643-B21

Related Options

HP Ultrium Tape Blades	HP Ultrium 448c Tape Blade	440947-B21
	HP StorageWorks SB1760c Tape Blade	AQ697A
	HP StorageWorks SB920c Tape Blade NOTE: LTO-3 Ultrium technology.	AJ401A
	HP PCI Express Mezzanine pass-thru card for HP BladeSystem NOTE: The HP PCI Express Mezzanine Pass-Thru Card for HP BladeSystem (431643-B21) is required when installing a tape blade adjacent to a full-height server blade NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12729_div/12729_div.html	431643-B21
HP StorageWorks All-in-One Storage Systems	HP StorageWorks X1800sb Network Storage Blade NOTE: HP StorageWorks X1800sb Network Storage Blade is a flexible storage server solution for BladeSystem environments. Combine the X1800sb with the SB40c Storage Blade to enable file serving and iSCSI shared storage inside the BladeSystem enclosure. The flexibility of the X1800sb extends to external storage as well. The X1800sb can also be used as a low cost SAN gateway to provide consolidated file-serving access to FC, SAS, or iSCSI SANs. NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12786_div/12786_div.html	AP805A
	HP StorageWorks X3800sb Network Storage Gateway NOTE: The X3800sb Network Storage Gateway Blade is used to access FC, SAS, or iSCSI SAN storage, translating file data from the server into blocks for storage to provide consolidated file, print, and management hosting services in a cluster-able package. Built on the HP ProLiant BL460c Server Blade, the HP StorageWorks X3800sb Network Storage Gateway Blade is a ready to deploy SAN gateway solution, with Microsoft Storage Server 2008, Enterprise x64 Edition pre-installed. The HP Rapid Start-up Wizard accelerates new deployments by walking you through basic system settings step-by-step. The X3800sb also includes a Microsoft Cluster Server (MSCS) license and Microsoft iSCSI Software Target. NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18006.www1.hp.com/products/quickspecs/13334_div/13334_div.html	AP806A
	StorageWorks Storage Mirroring for AiO Edition 1 LTU NOTE: This optional software is for mirroring data between AiO Storage blades in different locations. This is host-based data replication software for disaster recovery and data protection. NOTE: Order 1 unit for each AiO SB600c Storage Blade. NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12786_div/12786_div.html	T5321A

Related Options

Power Cords	HP LV Power Cords100 - 120V AC	
	HP 15A 125V NEMA 5-15P/IEC320-C19 3.6m/12ft, NA	235603-001
	HP 12A 125V NEMA 5-15P/ IEC320-C19 3.6m/12ft, JAPAN	391222-291
	HP 18A 125V NEMA 5-20P 4.5m/15ft, NA	E7802A
	HP C19 - C20 Jumper Cords	
	HP 16A IEC320-C19 to C20 1.2m/4ft, PDU cord, Flint Gray	AF575A
	HP 16A IEC320-C19 to C20 2m/6ft, PDU cord, Flint Gray	AF574A
	HP 16A IEC320--C19 to C20 2.5m/8ft PDU cord, Black	295633-B22
	HP 16A IEC320-C19 to C20 4.5m/15ft, PDU cord, Black	E7804A
	HP HV Power Cords 200 - 240V AC	
	HP 16A 250V L6-30P/IEC320-C19 4.5m/15ft, NA	E7805A
	HP 16A 250V NEMA L 6-20P/IEC320-C19 3.6m/12ft, NA	AF593A
	HP 16A 250V NBR 14136/ IEC320-C19 2.5m/8ft, Brazil	AF592A
	HP 16A 250V IRAM 2073/IEC320-C19 2.5m/8ft, AR	AF578A
	HP 13A 250V BS-1363/IEC320-C19 3.6m /12ft, UK/Sing/HK	359615-031
	HP 16A 250V CEE7-VII/IEC320- C19 3.6m/12ft, EU	AF576A
	HP 15A 250V AS3112-3/IEC320-C19 3.6m/12ft, AU/NZ	AF577A
	HP 16A 250V SABS 164/IEC320-C-9 3.6m /12ft, S.AFRICA	AF579A
	HP 16A 250V CEI23-50/IEC320-C19 3.6m /12ft, ITALY/CHILE	AF580A
	HP 16A 250V IEC309/IEC320-C19 3.6m/12ft, Denmark/Switzerland	AF581A
	HP 16A 250V IS 1293/IEC320-C19 2.5m /8ft, INDIA	AF582A
	HP 16A 250V SI-32/IEC320-C19 2.5m/8ft, ISRAEL	AF583A
	HP 16A 250V GB1002/IEC320-C19 2.5m/8 ft, CHINA	AF584A
	HP 16A 250V CNS690/IEC320-C19 2.5m/8 ft, TAWAIN	AF585A
	HP 16A 250V stripped end/IEC320-C19 4.5m /15ft, WW	E7806A
HP Single-Phase UPS	HP R5500 VA 3U UPS, International	AF416A
	HP R5500 VA 3U UPS, NA/JPN	AF426A
	NOTE: For more information on the R5500 please consult the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11871_div/11871_div.html	
HP 3-Phase UPS	HP R8000/3 Uninterruptible Power System 6U North America	AF431A
	HP R8000/3 Uninterruptible Power System 6U International	AF432A
	HP R12000/3 Uninterruptible Power System 6U North America	AF429A
	HP R12000/3 Uninterruptible Power System 6U International	AF430A
	NOTE: For more information on the HP 3-Phase UPS products please consult the QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/12857_div/12857_div.html	

Related Options

HP Rack Series	HP Rack 10000 G2 Series (Graphite Metallic)	
	10622 G2 (22U) Rack Cabinet Shock	AF022A
	10622 G2 (22U) Rack Cabinet Pallet	AF021A
	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet 1200mm Deep - Shock Pallet	AF034A
	10642 G2 (42U) Rack Cabinet 1200mm Deep - Pallet	AF038A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet - Crated	AF003A
	10642 G2 (42U) Rack Shock Pallet- for field racking (NA only)	AF007A
	10636 G2 (36U) Rack Cabinet - Shock Pallet	AF011A
	10636 G2 (36U) Rack Cabinet - Crated	AF012A
	10636 G2 (36U) Rack Cabinet, with Extension - Shock Pallet	AF013A
	10636 G2 (36U) Rack Cabinet, without door - Shock Pallet	AF014A
	10647 G2 (47U) Rack Cabinet 1200mm Deep - Shock Pallet	AF044A
	10647 G2 (47U) Rack Cabinet 1200mm Deep - Pallet	AF045A
	10647 G2 (47U) Rack Cabinet - Pallet	AF031A
	10842 G2 (42U) Rack Cabinet Shock	AF042A
	10842 G2 (42U) Rack Cabinet Pallet	AF041A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html (Worldwide)	
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: www.racksolutions.com/hp	

HP Rack Options	Keyboards and Monitors	
	TFT7600 Rackmount Keyboard Monitor US	AG052A
	TFT7600 Rackmount Keyboard Monitor UK	AG053A
	TFT7600 Rackmount Keyboard Monitor FR	AG055A
	TFT7600 Rackmount Keyboard Monitor SP	AG057A
	TFT7600 Rackmount Keyboard Monitor DEN	AG058A
	TFT7600 Rackmount Keyboard Monitor NOR	AG059A
	TFT7600 Rackmount Keyboard Monitor SWI	AG061A
	TFT7600 Rackmount Keyboard Monitor BEL	AG063A
	TFT7600 Rackmount Keyboard Monitor RUS	AG065A
	TFT7600 Rackmount Keyboard Monitor INTL	AG066A
	1U Rackmount Keyboard with USB, US	AG072A
	1U Rackmount Keyboard with USB, UK	AG073A
	1U Rackmount Keyboard with USB, GR	AG074A
	1U Rackmount Keyboard with USB, FR	AG075A
	1U Rackmount Keyboard with USB, ITL	AG076A
	1U Rackmount Keyboard with USB, SP	AG077A

Related Options

1U Rackmount Keyboard with USB, DEN	AG078A
1U Rackmount Keyboard with USB, NOR	AG079A
1U Rackmount Keyboard with USB, SE/FI	AG080A
1U Rackmount Keyboard with USB, SWI	AG081A
1U Rackmount Keyboard with USB, PORT	AG082A
1U Rackmount Keyboard with USB, BEL	AG083A
1U Rackmount Keyboard with USB, JPN2	AG084A
1U Rackmount Keyboard with USB, RUS	AG085A
1U Rackmount Keyboard with USB, INTL	AG086A

NOTE: For additional information regarding Rack Options, please see the following URL: www.racksolutions.com/hp

HP KVM Switch Options

2x1x16 IP Console Switch with Virtual Media	AF601A
4x1x16 IP Console Switch with Virtual Media	AF602A
2x16 Server Console Switch with Virtual Media	AF600A
HP 2x8 Server Console Switch G2	AF616A
HP 2x16 Server Console Switch G2	AF617A
USB Interface Adapter - 1 pack	336047-B21
USB Virtual Media Interface Adapter	AF603A
Serial Interface adapter - 1 Pack with power supply	373035-B21

NOTE: VT100 terminal emulation.

NOTE: Cat5e cables are required to connect Interface Adapters to Consoles Switches. Cat52 cables can be found at the following URL: http://www.hp.com/go/kvm

NOTE For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm

HP Serial Console Server Options

HP 16 Port Serial Console Server (worldwide)	AF101A
HP 48 Port Serial Console Server (worldwide)	AF102A
Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A

NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm.

NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.

Related Options

	Rack Options	
	HP 10642 G2 Front Door ALL	AF009A
	HP 10636 G2 Front Door ALL	AF019A
	10642 G2 (42U) Side Panels (set of two) (Graphite Metallic)	AF054A
	10636 G2 (36U) Side Panels (set of two) (Graphite Metallic)	AF056A
	10636 G2 Rear Extension Kit	AF060A
	600mm G2 Stabilizer Option Kit (Graphite)	AF062A
	600mm G2, Heavy Duty Stabilizer Option Kit (Graphite)	AF064A
	800mm G2, Heavy Duty Stabilizer Option Kit (Graphite) NOTE: Supports 10000 G2 Series only.	AF068A
	HP 10000 G2 Rack Grounding Kit	AF074A
	600W 10K G2 Rack Tie Down	AF076A
	NOTE: For additional information regarding Rack Options, please see the following URL: www.racksolutions.com/hp.	
	HP Airflow Optimization	
	HP 10000 Series Rack Airflow Optimization Kit	AF090A
	NOTE: The Airflow Optimization kit is designed to prevent hot and cold air from mixing thus optimizing the temperature at which the chilled air enters the racked servers. NOTE: When configuring racks through Factory Express, a Rack Optimization kit will automatically ship with the rack. This kit is recommended for all other rack configurations also.	

Tape Storage

The following options are supported in an Enterprise Backup Solution (EBS) environment with the HP BladeSystem c-Class enclosure. Please visit: http://www.hp.com/go/ebs for complete compatibility details.

HP StorageWorks MSL2024 Tape Library	
HP StorageWorks MSL2024 1 LTO-4 Ultrium 1840 SCSI Drive Library	AJ033A
HP StorageWorks MSL2024 1 LTO-4 Ultrium 1840 4GB FC Library	AJ034A
HP StorageWorks MSL2024 1 LTO-3 Ultrium 960 SCSI Drive Library	AG115A
HP StorageWorks MSL2024 1 LTO-3 Ultrium 960 4GB FC Library	AG326B
HP StorageWorks MSL2024 1 LTO-3 Ultrium 920 SCSI Drive Library	AH169A
HP StorageWorks MSL2024 2 LTO-3 Ultrium 920 SCSI Drive Library	AH170A
HP StorageWorks MSL2024 1 LTO-2 Ultrium 448 SCSI Drive Library	AG116A
HP StorageWorks MSL2024 2 LTO-2 Ultrium 448 SCSI Drive Library	AG117A
HP StorageWorks MSL4048 Tape Library	
HP StorageWorks MSL4048 1 LTO-4 Ultrium 1840 SCSI Drive Library	AJ035A
HP StorageWorks MSL4048 2 LTO-4 Ultrium 1840 SCSI Drive Library	AJ037A
HP StorageWorks MSL4048 1 LTO-4 Ultrium 1840 4GB FC Library	AJ036A
HP StorageWorks MSL4048 2 LTO-4 Ultrium 1840 4GB FC Library	AJ038A
HP StorageWorks MSL4048 1 LTO-3 Ultrium 920 SCSI Tape Library	AH171A
HP StorageWorks MSL4048 2 LTO-3 Ultrium 920 SCSI Tape Library	AH172A

Related Options

	HP StorageWorks MSL4048 1 LTO-3 Ultrium 960 SCSI Drive Library	AG322A
	HP StorageWorks MSL4048 1 LTO-3 Ultrium 960 4GB FC Library	AG324B
	HP StorageWorks MSL4048 2 LTO-3 Ultrium 960 SCSI Drive Library	AG323A
	HP StorageWorks MSL4048 2 LTO-3 Ultrium 960 4GB FC Library	AG325B
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information or to create a complete solution; reference current compatibility information at: http://www.hp.com/go/ebs.	
	HP StorageWorks Virtual Library Systems	
	HP StorageWorks 12000 Virtual Library System Gateway Base Library	AH814A
	HP StorageWorks 9030 Virtual Library System	AG306A
	HP StorageWorks 6218 Virtual Library System	AH809A
	HP StorageWorks 6227 Virtual Library System	AH810A
	HP StorageWorks 6636 Virtual Library System	AH811A
	HP StorageWorks 6653 Virtual Library System	AH812A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information or to create a complete solution. Reference current compatibility information at: http://www.hp.com/go/ebs.	
Disk-Based Backup	HP D2D Backup Systems	
	HP StorageWorks D2D2504i Backup System	EJ002A
Service and Support Offerings (HP Care Pack Services)	NOTE: HP Care Pack services for the c7000 Enclosure cover the enclosure, power supplies and fans. HP qualified rack options are covered by these services when installed within the same rack. HP supported c-Class enclosure devices including pass thru, Ethernet interconnect and virtual connect modules are also covered by the c7000 enclosure Care Pack services.	
	NOTE: SAN/Fabric switches for the HP c-Class BladeSystem are not covered under the c7000 enclosure Care Packs, SAN/Fabric switches carry separate Care Packs. SAN/Fabric Switch Care Pack service level support should always be uplifted to match existing storage or server service level.	
	Hardware Services On-site Service	
	Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic NOTE: Uplifts the Ethernet devices to the same level of service as the c-class enclosure	UE477E
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UE478E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE479E
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE480E
	Support Plus 24	
	Onsite HW support 24x7, 4hr response and Insight Control for Linux SW Updates, SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time including. HP holidays, Electronic	UK137E

Related Options

Onsite HW support 24x7, 4hr response and Insight Control for BladeSystem SW Updates, SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time including. HP holidays, Electronic	UH322E
Onsite HW support 24x7, 4hr response and Insight Control Data Center Edition SW Updates, SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time including. HP holidays, Electronic	UH323E
Installation & Start-up Services	
HP BladeSystem c7000 Infrastructure Installation and Startup Service for Blade Hardware and Insight Control Software, Electronic	UE602E
HP BladeSystem C7000 Enhanced Network Installation and Startup Service, Electronic	UE603E
ProLiant BL c-Class Enclosure and Blade Hardware Installation, Electronic	UE494E
ProLiant BL c-Class Blade Server Hardware Installation, Electronic	UE493E
NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/bladesystemservices	
NOTE: The HP Care Pack service part numbers below covers the HP Brocade 4Gb, 12 Port SAN Switch and Brocade 4/24/ SAN Switch.	
Hardware Services On-site Service	
Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	UE436E
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UE437E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE438E
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE439E
Hardware Installation, Electronic	U5988E
NOTE: The HP Care Pack service part numbers below covers the Brocade 4/24 SAN Switch Power Pack.	
Hardware Services On-site Service	
Support Plus	
Onsite HW support, 8am-9pm, M-F, 4hr response and SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excluding HP holidays, Electronic	UE728E
Support Plus 24	
Onsite HW support 24x7, 4hr response and SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time including HP holidays, Electronic	UE729E
NOTE: The HP Care Pack service part numbers below covers the HP Cisco MDS 9124e 12 port and 24 port Fabric Switch.	
Hardware Services On-site Service	
Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	UF313E
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UF972E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UF973E
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UF974E
Hardware Installation, Electronic	U5988E
Software Installation and StartUp Services	

Related Options

Provides for the Installation and Start-up of HP Insight Rapid Deployment software, Electronic	U5683E
NOTE: Provides installation on a Customer supplied server designated as a Deployment Server. Includes the deployment of a single server. This new server will be deployed using either one of the pre-configured scripts or an image. In addition, the service will provide for the capture and storage of the configuration of the newly deployed server and orientation on product usage. To be delivered during standard office ours, standard office days.	
Provides for the Installation and Start-up of HP Insight Rapid Deployment software Implementation of HP Insight Rapid Deployment software (Basic) (Electronic)	UA042E
Provides for the Installation and Start-up of System Insight Manager (Electronic)	UA041E
Provides for the Installation and Start-up of System Insight Manager Agents (Electronic)	UA040E
Provides for the Installation and Startup of Insight Control for Linux	UF372E
Provides for the Installation and Startup of HP Insight Virtual Machine Manager software for ProLiant & HP Insight Server Migration software for ProLiant	UD546E
Software Operating Environment Care Packs	
1 Year Microsoft operating environment software support 24x7 - 10 incidents	U9269E
1 Year Red Hat operating system software support 24x7 - 10 incidents	U3408E
1 Year SuSE operating system software support 24x7 - 10 incidents	U9936E
NOTE: For more information, customer/resellers can contact: http://www.hp.com/hps/carepack/services/	
BCS Flexible Care Packs Integrity blade server enclosure	
NOTE: HP Care Pack services for the c7000 Enclosure cover the enclosure, power supplies and fans. HP qualified rack options are covered by these services when installed within the same rack. HP supported c-Class enclosure devices including pass thru, Ethernet interconnect and virtual connect modules are also covered by the c7000 enclosure Care Pack services.	
NOTE: SAN/Fabric switches for the HP c-Class BladeSystem are not covered under the c7000 enclosure Care Packs, SAN/Fabric switches carry separate Care Packs. SAN/Fabric Switch Care Pack service level support should always be uplifted to match existing storage or server service level.	
Hardware Services On-site Service	
Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic NOTE: Uplifts the Ethernet devices to the same level of service as the c-class enclosure.	HA101A3#6Q6
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	HA103A3#6Q6
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	HA104A3#6Q6
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	HA105A3#6Q6
Support Plus	
Support Plus Service, 5-Day x 13-Hour Coverage	HA109A3#6Q6
Support Plus 24	
Support Plus 24 Service	HA110A3#6Q6
Proactive 24 Service - Mission Critical proactive environment 24x7 4hr onsite HW support	HA111A3#6Q6

Related Options

Critical Service - Mission Critical proactive environment 6-Hour Call-to-Repair onsite HW support	HA112A3#6Q6
Installation & Start-up Services	
HP BladeSystem c7000 Infrastructure Installation and Startup Service for Blade Hardware and Insight Control Software, Electronic	HA114A1#57A
NOTE: The HP Care Pack service part numbers below covers the HP Brocade 4Gb, 12 Port SAN Switch and Brocade 4/24 SAN Switch.	
Hardware Services On-site Service	
Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	HA101A3#85J
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	HA103A3#85J
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	HA104A3#85J
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	HA105A3#85J
Hardware Installation, Electronic	HA113A1#5D2
NOTE: The HP Care Pack service part numbers below covers the Brocade 4/24 SAN Switch Power Pack.	
Hardware Services On-site Service	
Support Plus	
Onsite HW support, 8am-9pm, M-F, 4hr response and SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excluding HP holidays, Electronic	HA109A3#85K
Support Plus 24	
Onsite HW support 24x7, 4hr response and SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time including HP holidays, Electronic	HA110A3#85K
NOTE: The HP Care Pack service part numbers below covers the HP Cisco MDS 9124e 12 port and 24 port Fabric Switch.	
Hardware Services On-site Service	
Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic NOTE: Uplifts the Ethernet devices to the same level of service as the c-class enclosure.	HA101A3#87L
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	HA103A3#87L
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	HA104A3#87L
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	HA105A3#87L
Hardware Installation, Electronic	HA113A1#5D2
NOTE: For more information, customer/resellers can contact: http://www.hp.com/hps/carepack/services/	

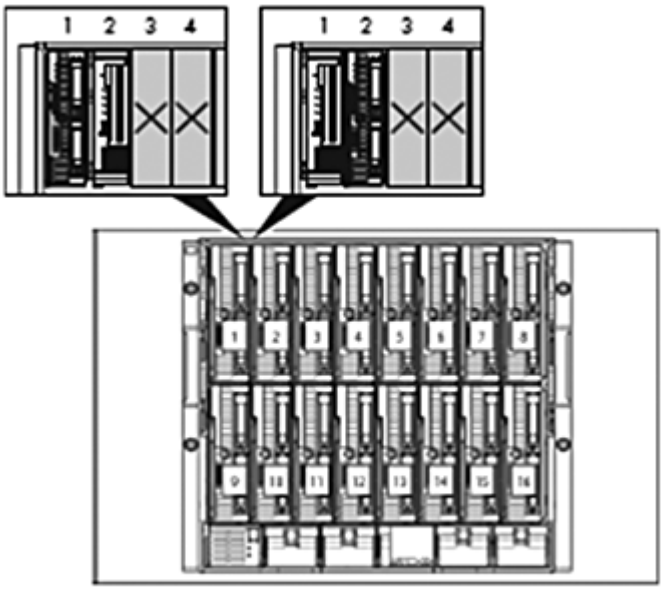


Figure 1 Installing a tape blade adjacent to a half-height server blade.

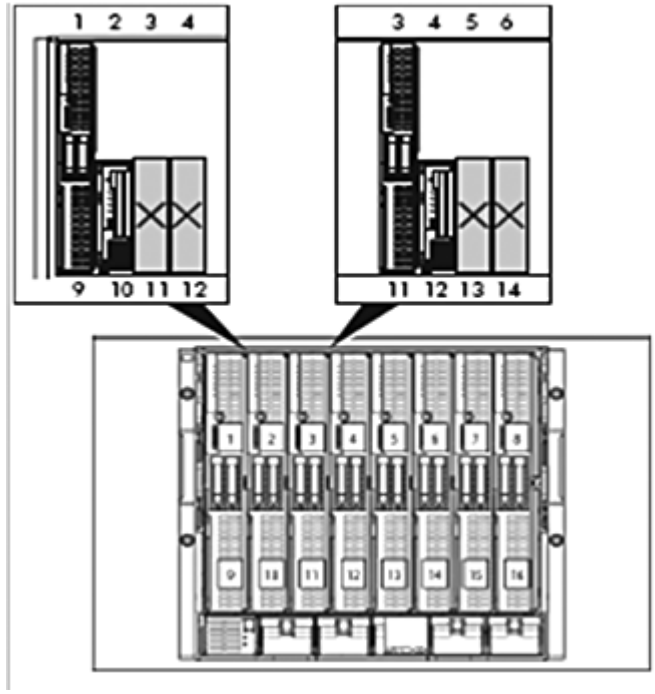


Figure 2 Installing a tape blade adjacent to a full-height server blade.

Installing Tape or Storage Blade

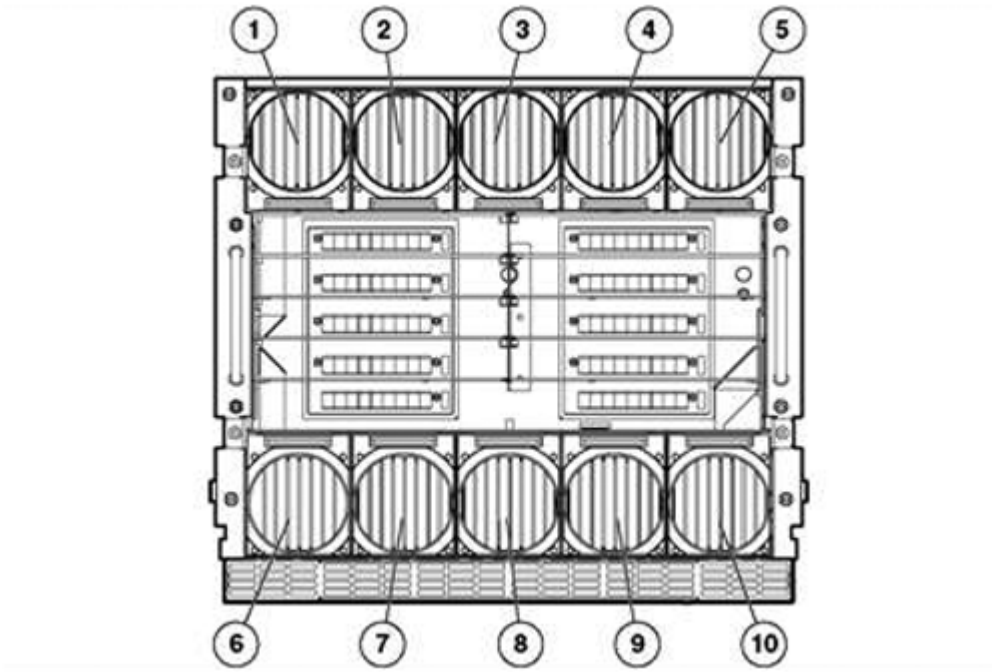
Description	Quantity Supported	Position Supported	Comments
Connecting a tape or storage blade to an adjacent half-height server blade (Figure 1)	Up to 8 per HP BladeSystem c-Class c7000 Enclosure	Odd or Even slots next to partner server blade	• A tape or storage blade supports one partner server blade, and one partner server blade supports one tape or storage blade. • Identify the partner server blade to be installed with the taoe or storage. The two blades always occupy a pair of slots, as follows: 1 & 2, 3 & 4, 5 & 6, 7 & 8, 9 & 10, 11 & 12, 13 & 14, 15 & 16. • If the partner server blade is installed in an odd-numbered bay, the tape or storage blade is installed in the adjacent even-numbered bay to the right. • If the partner server blade is installed in an even-numbered bay, the tape or storage blade is installed in the adjacent odd-numbered bay to the left.
Connecting a tape or storage blade to an adjacent full-height server blade (Figure 2)	Up to 4 per HP BladeSystem c-Class c7000 Enclosure	Slots 10, 12, 14, or 16 (lower bays only)	• A tape or storage blade supports one partner server blade, and one partner server blade supports one tape or storage blade. • When partnering a tape or storage blade with a full height server blade, an HP PCI Express Mezzanine Pass-Thru Card for BladeSystem c-Class (431643-B21) is required. This card is installed in mezzanine 3 connector in the server blade. • Identify the partner server blade to be installed with the tape or storage blade. The two blades always occupy a pair of

slots, as follows: 9 & 10, 11 & 12, 13 & 14, 15 & 16.

- The partner server blade is installed in an odd-numbered bay. The tape or storage blade is installed in the adjacent even-numbered bay to the right.
- The tape or storage blade is always located on the lower row of the enclosure in an even-numbered bay (slots 10, 12, 14 or 16)

Server Blade and Fan Population Guidelines

Fan bay numbering

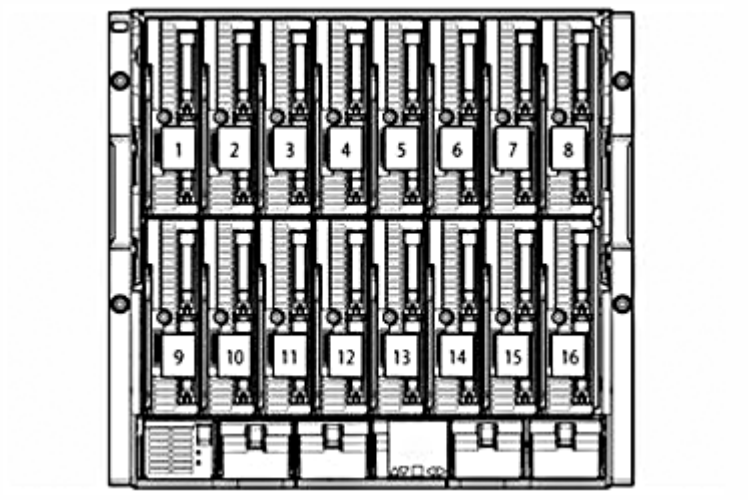


Fans must be placed in the following bays

Number of Fans	Fan Bays Used
4	4, 5, 9, 10
6	3, 4, 5, 8, 9, 10
8	1, 2, 4, 5, 6, 7, 9, 10
10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10

NOTE: For correct operation fans and server blades must be installed in the correct bays. The BladeSystem Onboard Administrator will ensure that fans and blades are correctly placed before allowing systems to power on.

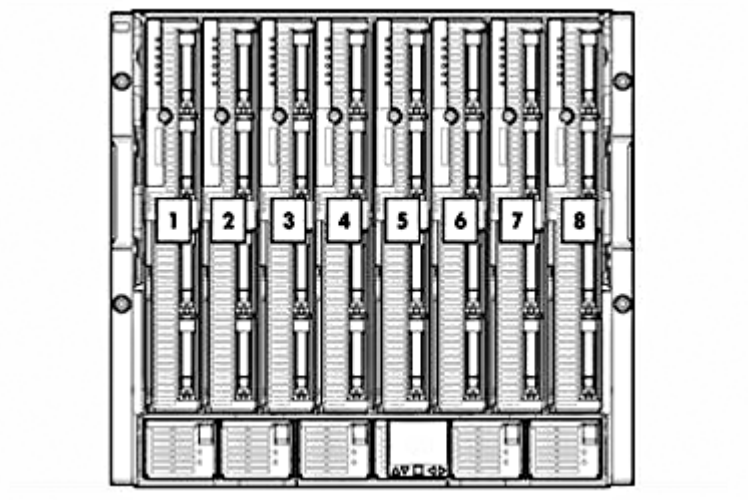
Half-height server blade bay numbering



1. Device Bay 1
2. Device Bay 2
3. Device Bay 3
4. Device Bay 4
5. Device Bay 5
6. Device Bay 6
7. Device Bay 7
8. Device Bay 8
9. Device Bay 9
10. Device Bay 10
11. Device Bay 11
12. Device Bay 12
13. Device Bay 13
14. Device Bay 14
15. Device Bay 15
16. Device Bay 16

NOTE: Half-height servers should be populated from top and bottom from left to right from the front of the enclosure. So the first two half-height servers would be placed in bays 1 & 9 the second two half-height servers would be placed in bays 2 & 10 and so on until the enclosure is full.

Full-height server blade bay numbering

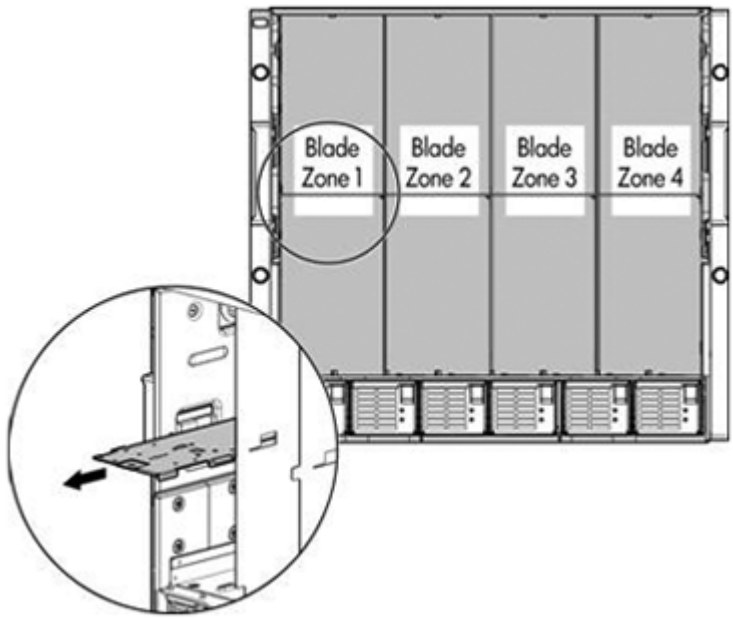


1. Device Bay 1
2. Device Bay 2
3. Device Bay 3
5. Device Bay 5
6. Device Bay 6
7. Device Bay 7

4. Device Bay 4
8. Device Bay 8

NOTE: Full-height servers should be populated from left to right.

Mixed Configuration - Full Height and Half-Height Population rules



The c7000 enclosure is divided into 4 quadrants by the vertical support metalwork. Within each quadrant a removable divider is used to support half height devices. To install a full-height blade in any quadrant this divider must be removed. As a consequence a quadrant can only contain either full-height server blades or half-height server blades.

NOTE: Storage blades and Tape blades can be installed in the same quadrant as both full-height and half-height blades, a bracket ships with each SB40c/Tape Blade that allows a half-height blade to be mounted on top of the storage blade.

NOTE: The lower tape or storage blade cannot be removed without first removing the upper half height blade.

HP BladeSystem c7000 Server Blade Enclosure	Dimensions	Height	17.4 in (442 mm)
		Width	17.6 in (447.04 mm)
		Depth	32 in (813 mm)
	Shipping Dimensions	Height	29.88 in (759 mm)
		Width	23.88 in (607 mm)
		Depth	39.88 in (1013 mm)
	Single Phase Enclosure Weight	Unboxed	192 lb (87 Kg)
		Shipping	235 lb (106.6 Kg)
	Three -Phase Enclosure NA/JPN Weight	Unboxed	222 lb (100.7 Kg)
		Shipping	265 lb (120.2 Kg)
	Three-Phase Enclosure International Weight	Unboxed	222 lb (100.7 Kg)
		Shipping	265 lb (120.2 Kg)
	DC Input Enclosure Weight	Unboxed	151 lb (68.5 Kg)
		Shipping	194 lb (88 Kg)

Max Enclosure Weight (approximate)	Unboxed	450 lb (204 Kg)	
	Shipping	493 lb (223.6 Kg)	
Temperature Range	Operating	50° to 95° F (10° to 35° C)	
	Non-Operating	-22° to 140° F (-30° to 60° C)	
Relative Humidity	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.	
	Non-Operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F)maximum wet bulb temperature, non-condensing.	

NOTE: Operating temperature has an altitude derating of 1.8° F (1° C) per 1,000 ft (304.8 m). No direct sunlight. Upper operating limit is 10,000 ft (3,048 m) or 70Kpa/10.1 psia. Upper non-operating limit is 30,000 ft (9,144 m) or 30.3 KPa/4.4 psia. Storage maximum humidity of 95% is based on a maximum temperature of 113° F (45° C). Altitude maximum for storage is 70 KPa.

Power	Input Requirements - Single Phase Model	Rated input frequency	50 to 60 Hz	
		2400W PSU	Rated input voltage	200 to 240 VAC
			Rated input current per power supply	13.9 A at 200 VAC 13.3 A at 208 VAC 12.6 A at 220 VAC
			Rated input power per power supply	2780 VA
	Input Requirements - Three Phase NA/JPN Model	Rated input voltage	200 to 208 VAC Line to Line 3-Phase Delta	
		Rated input frequency	50 to 60 Hz	
		2250W PSU	Max input current per line cord	22.6A at 200 VAC 21.8A at 208 VAC
			Max input power per line cord	7836VA Max
		2400W PSU	Max input current per line cord	24A at 200 VAC 23.1A at 208 VAC
			Max input power per line cord	8340 VA Max
	Input Requirements - Three Phase International Model	Rated input voltage	346 VAC to 415 VAC Line to Line 200 VAC to 240 VAC Line to Neutral 3-Phase WYE	
		Rated input frequency	50 to 60 Hz	
		2250W PSU	Max input current per line cord	11.9 A at 220 VAC 10.9 A at 240VAC
			Max input power per line cord	7836 VA Max
		2400W PSU	Max input current per line cord	12.6 A at 220 VAC 11.5 A at 240VAC
			Max input power per line cord	8340 VA Max

Input Requirements DC Power	Rated Input Voltage	36 to -72 VDC
	Max Input Current per line cord	75A
	Max Input Power per line Cord	2700W
Power Cords	Single Phase	IEC-320 C19-C20 1.22m (6 ft)
	3-Phase NA/JPN	2 x NEMA L15-30p 2.44m (10 ft)
	3-Phase International	2 x IEC-309 200/346 V - 240/415 V, 5-Pin, 6h 16A 2.44m (10 ft)
	-48V DC Power	Terminal lug: 45DG 4AWG 1/4 2H Two-hole lug 45 degree bend 0.25in. (6.4mm) stud hole size 0.63in. (16mm) hole spacing
Output Specifications (per power supply)	HP 2400W High Efficiency Hot-Plug Power Supply	200 - 240 VAC 2400 W 92% Efficiency
	HP 2250W -48V DC Hot-Plug Power Supply	2250W
Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	
	Idle	
	LWAd	7.5 Bels
	LpAm	57 dB
	Idle	
	LWAd	7.5 Bels
	LpAm	57 dB

Technical Specifications

Option Kits	Power Supply Option Shipping Dimensions	Height	8.75 in (223 mm)
		Width	8.63 in (219 mm)
		Depth	35.13 in (892 mm)
		Weight	8.5 lbs (3.85 Kg)
	Fan Option Shipping Dimensions	Height	8.75 in (223 mm)
		Width	9.75 in (248 mm)
		Depth	15.88 in (403 mm)
		Weight	4.0 lbs (1.8 Kg)
	BladeSystem Onboard Administrator Option Shipping Dimensions	Height	2.50 in (63.5 mm)
		Width	9.88 in (251 mm)
		Depth	13.50 in (343 mm)
		Weight	4.0 lbs (1.8 Kg)

Enviornmental-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

NOTE:
To review maximum system power ratings for facilities planning purposes use the Active Answers Power Calculator which is available via the online tool located at URL: http://www.hp.com/go/bladesystem/powercalculator

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